

WHAT IS CLAIMED IS:

1. An electromechanical system for testing IC-chips; said system being comprised of:

a chip holding subassembly which has sockets for holding a group of IC-modules that includes said IC-chips;

a moving means for automatically moving said chip holding subassembly from a load position in said system to a test position in said system, and visa-versa;

a power supply means which sends electrical power to said IC-modules on said chip holding subassembly only when that subassembly is at said test position;

a temperature control means which contacts said IC-modules on said chip holding subassembly only when that subassembly is at said test position; and,

a chip handler means, for automatically moving said IC-modules into and out of said sockets, while said chip holding subassembly is at said load position.

2. A system according to claim 1 where in said chip-handler means includes a robotic arm means for moving said IC-modules from one source container into said sockets, and from said sockets to at least one pass
5 container and at least one fail container.

3. A system according to claim 2 which further includes a means for automatically replacing any one of said containers when said robotic arm has emptied or filled that container with said IC-modules.

4. A system according to claim 2 wherein each socket on said chip holding subassembly faces downward at said load and test position, and receives an IC-module that has electrical terminals which face upward.

5. A system according to claim 4 wherein said robotic arm means flips each IC-module 180° from an initial position where said electrical terminals face downward.

6. A system according to claim 2 wherein each source container, each pass container, and each fail container is a JEDIC tray.

7. A system according to claim 1 wherein said power supply means is rigidly attached to said chip holding subassembly and moves with that subassembly from said load position to said test position.

8. A system according to claim 1 which further includes a signal generator means for sending test signals to all IC-modules which are held by said chip holding subassembly at said test position.

9. A system according to claim 8 wherein said signal generator means includes a digital state machine which is rigidly attached to said chip holding subassembly and moves with that subassembly from said
5 load position to said test position, and a master controller which is stationary and is coupled via a communication channel to said digital state machine.

10. A system according to claim 8 wherein said signal generator means sends test signals which place said IC-chips on said chip holding subassembly in a predetermined state but do not functionally test said IC-chips.

11. A system according to claim 8 wherein said signal generator means sends test signals which functionally test said IC-chips on said chip holding subassembly.

12. A system according to claim 1 wherein said moving means moves said chip holding subassembly horizontally from said load position to said test position, and said temperature control means moves vertically to contact said IC-modules on said chip holding subassembly at said test position.